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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,189	07/13/2001	Guang-Jong Jason Wei	163.1438US01	3059

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EXAMINER	
PAK, JOHN D	

ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 11/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/905,189	WEI et al.
Examiner	**Art Unit**
PAK, J.	1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 8/26/03

2a)☑ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4)☑ Claim(s) 1-9, 11-12, 15-21, 23-33 and 35-47 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideratio

5)☐ Claim(s) _____ is/are allowed.

6)☑ Claim(s) 1-9, 11-12, 15-21, 23-33 and 35-47 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examine

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some* c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claims 1-9, 11-12, 15-21, 23-33, 35-47 are pending in this application. The pending claims will presently be examined to the extent that they read on the elected subject matter of record, i.e. sabacic acid esters and adipic acid esters.

In the previous Office Action (Paper No. 11, page 2), applicant was advised that "[n]umerous dependent claims recite only one ingredient, but the composition is claimed in terms of 'comprising'". The result is that the claims wind up reading on only one ingredient. Claim 5 was noted as one example.

In response, applicant has corrected some, but not all of the affected claims. Claims 8-9, 11-12, 15-16 still need appropriate corrections.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 11-12, 17-21, 23-31, 33, 35, 42-46 stand rejected under 35 USC 102(b) as being anticipated by Carr et al. for the reasons of record and for additional reasons given below, which reasons are set forth in response to applicant's arguments.

Applicant's amendments and remarks of 8/26/03 have been given due consideration, but they were deemed unpersuasive.

All independent claims have been amended to read on 0.01-10 wt% mono- or diester dicarboxylate, 0.01-10 wt% hydrogen peroxide, and 90-99.98 wt% water. Dependent claims recite narrower ranges. Carr et al. clearly and explicitly teach weight ranges and proportions that are readable thereon. See page 3, lines 7-16; page 8, lines 1-18. 3 wt% and 5 wt% diester concentrations are specifically taught (p. 7, line 13). 2 wt%, 4 wt% and up to 16 wt% hydrogen peroxide concentrations are specifically taught (p. 7, lines 2-8). A wide range of dilutions suited for end use is taught (p. 13, lines 8-14). Dilutions are chosen to give a concentration of ester peracid in solution of between 1-10,000 ppm (p. 13, lines 11-14). Given such teachings, the claimed weight ranges and proportions are immediately envisaged. There is no way to obtain, for example 1 ppm magnitude (i.e. low end of the 1-10,000 ppm range) of ester peracid without having a correspondingly low concentration of ester of acid such as sebacic acid and a correspondingly low concentration of hydrogen peroxide, which concentrations are within the low end of the ranges taught by Carr et al.

The claims have also been amended to read on exhibiting "antimicrobial activity against *Bacillus cereus, Bacillus subtilis,* or *Chaetomium funicola* upon contacting the microbe with the composition for at least 5 seconds at a temperature between about 0 ^{0}C

to about 100 ^{0}C." Dependent claims 23 and 39-41 recite more specific activity, such as at least one log reduction, **but note** that only the dependent composition claim 23 is included in this ground of rejection and only claim 23 requires a log reduction feature here. Applicant argues that Carr et al. do not disclose or suggest such activity. The Examiner cannot agree that this feature imparts patentability – the feature is necessarily present in the composition explicitly disclosed by Carr et al. Carr et al. specifically teach that their composition is for use 4 ^{0}C to boiling point of the composition solution. Hence, the same composition, which contains the same ingredients, at the same concentration amounts, is used at the same temperature range. The same activity must be present in the prior art composition. See MPEP 2112, 2112.01.

Claims 1-9, 11-12, 15-21, 23-33, 35-47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al. in view of Hei, Chemical Abstracts 134:97683 and Richter et al. for the reasons of record and for additional reasons given below, which reasons are set forth in response to applicant's arguments.

Applicant's amendments and remarks of 8/26/03 have been given due consideration, but they were deemed unpersuasive.

All independent claims have been amended to read on 0.01-10 wt% mono- or diester dicarboxylate, 0.01-10 wt% hydrogen peroxide, and 90-99.98 wt% water. Dependent claims recite narrower ranges. Carr et al. clearly and explicitly teach weight ranges and proportions that are readable thereon. See page 3, lines 7-16; page 8, lines

1-18. 3 wt% and 5 wt% diester concentrations are specifically taught (p. 7, line 13). 2 wt%, 4 wt% and up to 16 wt% hydrogen peroxide concentrations are specifically taught (p. 7, lines 2-8). A wide range of dilutions suited for end use is taught (p. 13, lines 8-14). Dilutions are chosen to give a concentration of ester peracid in solution of between 1-10,000 ppm (p. 13, lines 11-14). Given such teachings, the claimed weight ranges and proportions would have been obvious to the ordinary skilled artisan. There is no way to obtain, for example 1 ppm magnitude (i.e. low end of the 1-10,000 ppm range) of ester peracid without having a correspondingly low concentration of ester of acid such as sebacic acid and a correspondingly low concentration of hydrogen peroxide, which concentrations are within the low end of the ranges taught by Carr et al.

The claims have also been amended to read on exhibiting "antimicrobial activity against *Bacillus cereus, Bacillus subtilis,* or *Chaetomium funicola* upon contacting the microbe with the composition for at least 5 seconds at a temperature between about 0 ^{0}C to about 100 ^{0}C." Dependent claims recite more specific activity, such as at least one log reduction. Applicant argues that Carr et al. do not disclose or suggest this activity. The Examiner cannot agree. Carr et al. disclose the diester derivative of dicarboxylic acids (e.g. diesters of sebacic acid) to provide a peracid system that is a "particularly effective disinfectant" (p. 4, lines 16-22). To put this in context, the ordinary skilled artisan would have recognized that peracids are excellent disinfectants in their own right, so an even better disinfectant would have been expected to have a superior level and spectrum of activity. Hence, the teachings of the cited secondary references that peracetic acid has activity against *Chaetomium funicola, Arthrinium sacchari,* and *Bacillus cereus* (at 40-60

^{0}C) suggest that the compositions taught by Carr et al. would have been expected to possess the properties now claimed by applicant since said compositions would have been expected to be even better as a disinfectant than peracetic acid.

Applicant argues that the specification provides unexpected results compared with the compositions disclosed by Carr et al. Applicant is mistaken on several grounds.

First, most of the claims here do **not require** a log reduction feature – only dependent claims 23 and 39-41 require such specific level of activity. Hence, applicant's specification evidence does nothing to show unexpected result with respect to most of the claims. Those claims that do not specifically recite a log reduction feature are expected to possess disinfectant properties, and applicant's results do not militate against such an expectation. As for the claims that require a log reduction, applicant's arguments have been addressed earlier in this Office action, in the paragraph bridging pages 5 and 6, supra.

Second, applicant's claims are written so that they cannot be clearly distinguished from what is purported to be prior art in the comparative tests. In specification examples (pp. 46-50), Perestane™ is asserted to be based on the disclosure by Carr et al. Applicant states that "Perestane is a tradename for a conventional, commercial blend of mono- or diester dicarboxylates and ester peroxycarboxylic acids that is sold by Solvay ..." (p. 47, footnote 1). Applicant's invention formulations that were tested contained (i) 5 wt% diester dicarboxylate, 2.1 wt% hydrogen peroxide and water (designated as Formulation 11), (ii) 5 wt% diester dicarboxylate, 4.2 wt% hydrogen peroxide and water (designated as Formulation 12).

The problem here is that Carr et al. teach Formulations 11 and 12, as discussed above. Carr et al. clearly and explicitly teach weight ranges and proportions that are readable thereon. See page 3, lines 7-16; page 8, lines 1-18. 3 wt% and 5 wt% diester concentrations are specifically taught (p. 7, line 13). 2 wt% and 4 wt% hydrogen peroxide concentrations are specifically taught (p. 7, lines 2-8). Therefore, it is the Examiner's position that applicant's comparative data fails to compare against the specific concentration of components explicitly taught by Carr et al.

For these reasons and for the reasons of record, which are incorporate herein by reference, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made. Carr et al. provide the expectation that their composition, which is directly readable on applicant's composition, would possess superior activity, as claimed. One log reduction is not a demanding test, and such level of activity would have been expected for compositions that contain the quantity of hydrogen peroxide and peroxyacids present in the instant claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier numbers for accessing the facsimile machines are (703) 308-4556 or (703) 305-3592.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Pak whose telephone number is (703) 308-4538. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Thurman Page, can be reached on (703) 308-2927.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.